



## **Math Models and Applications - Course Syllabus**

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### **Description:**

This course serves a dual purpose as an introductory course to basic Math concepts and as a refresher course to prepare students for Algebraic concepts. Math Models and Applications provides clear, easy explanations for introductory Math concepts and lays the groundwork for challenging an Algebra 1 course. Concepts discussed are: Addition and Subtraction of Whole Numbers, Multiplication and Division of Whole Numbers, Exponents, Roots, and Factorization of Whole Numbers, Multiplication and Division of Fractions, Decimals, Ratios and Rates, Intro to Geometry, Signed Numbers, Algebraic Expressions.

**Textbook:** Fundamentals of Mathematics – OpenStax – Creative Commons Attribution 4.0

### **Course objectives:**

Throughout the course, you will meet the following goals:

- Understand the basics of Addition/Subtraction/Multiplication/Division.
- Explore Exponents, Roots, and Factorization.
- Understand Calculations with Fractions
- Exposure to Introduction to Geometry
- Exposure to Introduction to Algebraic Expressions

### **Contents:**

#### **Semester A**

Unit 1: Addition/Subtraction of Whole Numbers  
Unit 2: Multiplication/Division of Whole Numbers  
Unit 3: Exponents, Roots, Factorization  
Unit 4: Multiplication/Division of Fractions  
Unit 5: Addition/Subtraction of Fractions

#### **Semester B**

Unit 6: Decimals  
Unit 7: Ratios and Rates  
Unit 8: Intro to Geometry  
Unit 9: Signed Numbers  
Unit 10: Intro to Algebraic Expressions

### **Grading Scale**

**A = 90-100%**  
**B = 80-89%**  
**C = 70-79%**  
**D = 60-69%**  
**F = under 59%**

### **Grade Weighting**

**Unit Quizzes..... 70%**  
**Mid-Term and Final Exam 30%**  
**100%**